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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,720	10/03/2003	Robert C. Lam	01168/DKT00076	6119

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EXAMINER	
SPERTY, ARDEN B	
ART UNIT	**PAPER NUMBER**
1771	

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/678,720	LAM, ROBERT C.	
	Examiner	Art Unit	
	Arden B. Sperty	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-29* is/are pending in the application.

4a) Of the above claim(s) *23-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-22 and 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

FINAL OFFICE ACTION

1. Applicant's comments and amendments, submitted 11/14/05, have been entered and carefully considered.

Claim Objections

2. Claim 6 is objected to because of the following informalities: In line 10, "least" is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 9 of claim 6, it appears that the porous primary layer should be referred to, instead of the "fibrous base layer."

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3-5, 14-15, and 20, are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5965658 to Smith et al.

7. The Smith reference teaches a friction material comprising carbonaceous fibers, which are about 65 to 80% carbonized, and a thermosetting resin (Abstract). The carbonaceous fibers are present in an amount of about 2-20%, thus meeting the limitations of claims 1 and 3.

8. Regarding claim 4, the carbonaceous fibers have a length of 0.1 to 50 mm (col. 4, lines 13-16) and a diameter of about 8 to 25 μm (col 4, lines 41-44).

9. Regarding claim 5, the friction material further comprises aramid fibers (col. 3, lines 55-57).

10. Regarding claim 14, phenolic resins are recited for use as the thermosetting resin (col. 5, line 9). Regarding claim 15, resin is contained in an amount of about 5 to 35% (col. 5, lines 15-16). Regarding claim 20, epoxy-modified phenolic resins are recited (col. 5, line 14-15).

Claim Rejections - 35 USC § 102/103

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 10-11 are rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over US Patent 5965658 to Smith, as applied to claim 1 above.

13. The Smith reference teaches a friction material comprising partially carbonized carbonaceous fibers, a thermosetting resin, and auxiliary materials (columns 3-5). Example 1 is a non-limiting example of a specific composition and forming method for the friction material. As is conventional in the art, the fibrous composition is compression molded and cured to form a brake pad. The conventional compression molding and curing of an impregnated fibrous brake pad material results in an inherently porous product. Fibrous materials for brake pad materials are conventionally selected for the porosity provided thereby. It is reasonable to presume that although the porosity of the friction material is not mentioned, the porosity is present as a result of the composition and process of making. In the event any differences between the porosity of the prior art and that of the claims can be shown, such differences would have been obvious to one of ordinary skill in the art as a routing modification of the product in the absence of a showing of unexpected results; see also *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985). See *In re Best*, 195 USPQ 430, 433 (CCPA 1977) and *In re Fitzgerald*, 205 USPQ 594 (CAFC) for the providing of this rejection under 35 USC 102/103.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5965658 to Smith as applied to claim 1 above, and further in view of US Patent 6194059 to Yesnik.

16. The Smith reference teaches a friction material comprising carbonaceous fibers, a thermosetting resin, and auxiliary materials (col. 4-5). The reference teaches several resins which may be employed in making the friction material, including phenolic resins. The reference does not mention the combination of silicone resin with the recited resins. The Yesnik reference is also drawn to an impregnated friction material. The Yesnik reference teaches the inclusion of a silicone-phenolic resin blend to provide high friction stability and high heat resistance (col. 3, lines 10-20). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the phenolic resin of the Smith reference with a silicone component, motivated by the desire to provide high friction stability and high heat resistance. Further, absent a showing of unexpected results with the claimed proportions, it would have been within the ordinary level of skill of one in the art to determine an optimal formula.

17. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5965658 to Smith.

18. The Smith reference teaches epoxy modified phenolic resins. The reference is not particular about the proportions of epoxy and phenolic resins. The proportions of the modified resin are left to one of ordinary skill in the art. Determination of desired resin proportions would have been within the ordinary level of skill of one in the art, and would have required only routine experimentation. Absent a showing of unexpected results with the claimed proportions, no patentable distinction can be determined over what is routine in the art.

Allowable Subject Matter

19. Claim 6 is currently rejected under 35 USC 112, second paragraph. Claim 6 would be allowable if corrected, as indicated above, to overcome the rejection under 35 USC 112, second paragraph. The following is a statement of reasons for indication of allowable subject matter:

20. The prior art teaches fibrous friction materials comprising aramid fibers, and an amount of partially carbonized carbon fibers within the claimed range. The partially carbonized fibers are also known to have the claimed degree of carbonization. Canadian Standard Freeness (CSF) is a recognized measure of the degree of fiber fibrillation based upon drainability, the value of which would have been obvious to optimize by one of ordinary skill in the art. Further inclusion of a variety of filler materials is also disclosed by the prior art. What is not taught, or fairly suggested, by the prior art

is the above friction material further comprising a secondary layer of 65 to 90% carbonized carbon fibers covering about 3 to about 90% of the surface of the friction material. For this reason, claims 6-9, 12-13, and 29 would be allowable, if claim 6 was corrected to overcome the rejection under 35 USC 112, second paragraph. Method claims 23-38 would be rejoined, and also allowed, because they also include coating 65 to 90% carbonized carbon fibers to cover about 3 to about 90% of the surface of the friction material.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arden B. Sperty whose telephone number is (571)272-1543. The examiner can normally be reached on M-Th, 08:00-16:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571)272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Arden B. Sperty
Examiner
Art Unit 1771

February 1, 2006

CHERYL A. JUSKA
PRIMARY EXAMINER